The Journal

OF THE

Jamaica Agricultural Society.

FOR THE YEAR 1909.

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VOL. XIII. JANUARY 1909. No. 1.

THE usual monthly meeting of the Board of Management of the Agricultural Society was held at the office of the Society on Thursday, 17th December, at 11.40. Present: His Excellency the Governor, presiding, the Hons. H. Clarence Bourne, H. H. Cousins, Dr. Pringle, R. P. Simmonds, His Lordship Bishop Collins, Messrs. D. Campbell, R. Craig, A. W. Douet, J. Shore, A. C. L. Martin, and the Secretary.

Apologies for absence were received from the Hon. George McGrath, Mr. Haggart, and Mr. Williams.

Printed copies of the previous minutes having been circulated, these were taken as read.

Mr. Craig said that in the abridged report of the meeting published as the minutes, now before them, his remarks with regard to the Deputy Chairmanship, and which were necessary to understand the discussion, were left out, and he thought that they should be inserted in the printed minutes if possible. This was agreed to. With this addition the minutes were confirmed.

Arrangements in Agricultural Services. The Secretary read the following letter from the C.S.O., No. 12210/14823, 3rd December, 1908:

With reference to the announcement made by the Governor as President of the Jamaica Agricultural Society at the last meeting of the Board of Management, respecting his intention to make proposals for abolishing the Board of Agriculture and for certain consequent re-adjustments of services which might affect to some extent the arrangements of the Agricultural Society, I am directed by His Excellency to inform you that as at present advised, the Governor contemplates the following measures:

1. To abolish the present Board of Agriculture.
2. To invite the Jamaica Agricultural Society to amend its rules so as to make the Director of Agriculture *ex-officio* a member of the Board of Management. Mr. Cousins to vacate the position of Deputy Chairman of the Board of Management.
3. The responsibilities of the Board of Agriculture under Law 45 of 1903 and Law 3 of 1906 for the control of the sugar experiment station to be transferred to a committee of the Board of Management of the Society, which may, if necessary, include members of the Society not on the Board and of which the Director of Agriculture should be Chairman. Legislation will be required for this purpose.
4. That whilst the agricultural Instructors at the present in the service of the Government and of the Board of Management, respectively, should remain in their respective present positions, all future Instructors for whose services it may be possible to make provision, should be appointed on the footing of the Instructors now serving the Board of Management, and that the control of the work of all the Instructors should

be under the direction of a committee of the Board of Management of which the Director of Agriculture should be Chairman.

5. All other service and duties now performed by the Board of Agriculture in regard to administrative matters to be transferred to the Director of Agriculture.

~~6.~~ ~~The~~ abolition of the Board of Agriculture will leave the Board of Management of the Agricultural Society as the sole mixed and representative body of the Government in agricultural matters. Hitherto the Government has profited by having concurrently the advice of the Board of Agriculture. Of this Board, Messrs. D. Campbell, E. W. Muirhead and J. Shore, together with the Secretary and the Director of Agriculture, are already members of the Board of Management of the Jamaica Agricultural Society. Valuable assistance and counsel is also furnished to the Government by the Board of Agriculture, owing to the presence thereon of His Grace the Archbishop, Mr. C. E. deMercado, Mr. Conrad Watson, and the Superintending Inspector of Schools. The advice of the Superintending Inspector of Schools, which is especially required in connection with the development of school gardens and the agricultural training of school teachers, can be on all occasions procured by departmental reference on the part of the Director of Agriculture. With regard to the other gentlemen named, I am to observe that Mr. Conrad Watson is especially qualified to give advice in regard to the cultivation of cotton. The deliberations and practical qualifications of His Grace the Archbishop and Mr. C. E. DeMercado are well known to the Board. The Governor would desire to suggest for the consideration of the Society, whether if these gentlemen or any of them, are willing to serve on the Board of Management, it would be practicable to enlarge the Board so as to admit of their being transferred to it by nomination; at any rate for the balance of the period during which the present Board of Management will under existing conditions remain in office.

I am to suggest that you will circulate copies of this letter to the members of the Board of Management before its next meeting, and I have to inform you that I shall by direction of the Governor, move for discussion by the Board, resolutions proposing the acceptance of the foregoing suggestions.

The Colonial Secretary moved that the measures proposed in the letter be adopted.

Paragraph 1 was agreed to.

The proposals in paragraph 2 were also agreed to.

As regards paragraph 3, Mr. Craig moved that the committee to control the Sugar Experiment Station be left to the nomination of the Governor, and that the committee elect its own Chairman. Mr. Shore seconded, and this was agreed to.

As regards paragraph 4, Mr. Craig moved that the proposals be not agreed to. Mr. Douet seconded. After discussion, the proposal was put to the vote and agreed to by a majority of 6 to 4.

Mr. Campbell moved that the whole of paragraph 5 be struck out. This was agreed to.

With regard to the proposal in paragraph 6, it was agreed that His Grace the Archbishop, Mr. C. E. deMercado, and Mr. Conrad Watson, might be nominated by the Governor as members of the Board of Management for the remainder of the period until the next

the number of the Board. These proposals to be put before the next general meeting.

Cotton Growing for Small Settlers. The Secretary submitted the following letter from the C.S.O., No. 12590/14354, 12th December, 1908 :

I am directed by the Governor to state for the information of the Board of Agriculture and the Jamaica Agricultural Society, of both of which bodies you are the Secretary, that Mr. J. R. Williams, one of the representatives of this Colony, at the conference with the Cotton Growers Association of Liverpool of representatives of West India Colonies, on his return to the Colony informed the Governor that he was sending a report to you on the conference; His Excellency has also received a letter on the subject from Mr. Conrad Watson, a copy of which I annex.

I am directed to say that His Excellency would be glad if the question, whether anything should be done, and if so, what, to encourage the growing of cotton in this Island, particularly amongst the small settlers, could be considered by the Board of Agriculture and the Jamaica Agricultural Society. It appears to His Excellency that the most feasible way of discussing the matter, would be for the Board of Agriculture and the Jamaica Agricultural Society to appoint representative members, say two of each body, to form a joint committee on the subject. His Excellency would suggest the names of the Archbishop of the West Indies, the Director of Agriculture, and Mr. Conrad Watson, as representing the Board of Agriculture and Messrs. Joseph Shore and H. T. Ronaldson to represent the Jamaica Agricultural Society (with perhaps another member to take the minutes representing each body equally.)

It has been suggested that the joint committee might find it useful to consult with Messrs. Palache and Arnett, the agricultural Instructors, who have been doing work in the districts in the north and south sides respectively of the island, which are represented as the most suitable for present cotton cultivation.

If the Board of Agriculture and the Agricultural Society concur in the above suggestions, His Excellency will be much obliged if they will communicate with, and ascertain from, the gentlemen named, whether they would be willing to act on the committee. If the Board or the Society differs in any way from the suggestions made, His Excellency would be glad of an expression of its views on the subject.

The Colonial Secretary explained that the Board of Agriculture had accepted the suggestions, and nominated the committee suggested, and he moved that the Board of Management agree to the proposal of a joint committee. This was agreed to.

It was moved by Dr. Pringle, seconded by Mr. Simmonds, that Mr. T. H. Sharp be added to the members to represent the Board; the committee therefore to consist of Mr. Shore, Mr. Ronaldson and Mr. Sharp, together with the Archbishop, the Director of Agriculture and Mr. Conrad Watson, as representatives of the Board of Agriculture on the joint committee.

Conditions in South Manchester. With regard to a letter from the Governor concerning conditions in South Manchester submitted to the last meeting of the Board, Mr. A. C. L. Martin moved—

That in view of the low price prevailing for coffee, the principal industry of the peasant proprietors of Southern Manchester, the absence of shipping facilities for the citrus fruit grown in the district whereby it has become impossible to derive any benefit

from the early and only profitable market for their fruit, the frequent recurrence of prolonged droughts severely affecting all the existing crops grown in this part of the parish and materially preventing and impeding stock raising, it has become absolutely necessary to devise some means for giving some assistance to those peasant proprietors without encroaching on their independence and avoiding such relief as tend to helplessness and pauperism. It is, therefore, suggested that an experiment station should be established in some central position in Southern Manchester under the direction and management of the Instructor for the district, where amongst other things, the following operations may from time to time be conducted.

1. The practical methods of dealing with exhausted land and restoring fertility thereto.

2. The growing of the crops now grown in the district, on most approved methods.

3. The curing of the island products like coffee and pimento on correct lines.

4. The introduction, growing and testing of new varieties of existing crops, as well as such new products as may be deemed advisable to give a trial in these districts.

5. And such other experiments as will ensure objective teaching in agriculture, which experience has shown is far more effective than any other method, and thus indnce a course of action as will enable a more successful means of combating these droughts and the existing economical conditions resulting from causes above set forth.

After discussion, it was agreed to let the matter stand over until the report of Mr. Palache, the Instructor, which had been asked for, was received.

Ulster Spring Agricultural Society. The Secretary submitted a letter from the Secretary of the Ulster Spring Agricultural Society, stating reasons why the Society should be affiliated, and pointing out that as Mr. Forbes, one of the Vice-presidents, who was the late Treasurer of the Upper Trelawny Branch had resigned so that the matter of the retention of the funds of that Branch by him could only be regarded as a personal matter.

After discussion affiliation was granted.

Letters from C.S.O. The following letters from the C. S. O. were submitted: (a) re Imperial and International Exhibition, No. 12562/14640, 11th December, 1908:

I am directed by the Governor to transmit for the information of the Jamaica Agricultural Society, a copy of a letter from the Secretary of the Imperial and International Exhibition, inviting this Government to participate in the Exhibition proposed to be held in London in 1909. I also enclose a copy of the reply which has been sent from this Office.

I am directed by the Governor to acknowledge the receipt of your letter of the 5th ultimo, inviting this Government to participate in the Imperial and International Exhibition proposed to be held in London in 1909.

2. In reply, I am to inform you that His Excellency regrets that no appropriation from Public Funds can be made to secure the representation of this Colony at the proposed Exhibiton. He has however, caused a copy of your letter to be sent to the Royal Jamaica Society of Agriculture and Commerce and Merchants' Exchange, and to the Jamaica Agricultural Society, who may possibly be able to assist by arranging for the

transmission of private exhibits from Jamaica or other facilities for exhibitors.

Franco-British Exhibition of Science, Arts and Industries,
London, 1908, Shepherd's Bush, 5th November, 1908.

Sir,—The Franco-British Exhibition which has just been brought to a close, has been the largest, the most successful and the most numerously attended in the United Kingdom or in any portion of the British Empire. Its effects upon the political and commercial relations of the two great nations which took part in it have been very remarkable, and it is not too much to assert that the friendly feelings now existing between the people, as well as the Governments of France and this Country, are to a great extent the result of the magnificent collections of Art and Industry displayed at Shepherd's Bush, and to the millions of persons from all parts of the British Isles and from France, who came to visit the productions of their fellow citizens. The results to the Colonies—Constitutional and Crown—which participated in the Exhibition have not been less gratifying; fresh markets have been found for their products, and they moreover are better known by the people of the Mother Country, and the World in general than at any previous period since Great Britain possessed a Colonial Empire.

Under these circumstances it has been determined in deference to universally expressed public opinion to hold an Exhibition next year on somewhat similar lines to the Franco-British, the space occupied by France on that occasion being granted to other friendly nations, while special prominence will be given to displays of Home Manufacturers and the British Colonies.

The title will be the Imperial and International Exhibition, 1909, and the management will be under the control of a powerful, influential and representative Committee.

The Honorary President, His Grace the Duke of Argyll, the President, the Vice-President and the Executive Committee of the Franco-British Exhibition regretted very much that circumstances prevented them from having the participation of Jamaica, but it is hoped that in the forthcoming Exhibition, which is expected to be even more largely attended than the last, and will contain a number of novel and attractive features, your Colony will be efficiently represented.

The charge for space will be the same as at the Franco-British Exhibition, viz.: Ten shillings (10/-) per square foot in Palaces provided by the Administration, while in the event of any Store or Colony erecting its own buildings a charge of Two shillings (2/-) to Two shillings and sixpence (2/6) per square foot will be made for the block of ground occupied, according to its pavilion.—I have, etc., (Sgd.) George Collins Levey, Secretary to the Colonial Committee.

(b) Re Native Corn, No. 12362/7922, 8th December, 1908:

I am directed by the Governor to transmit herewith extracts from a memorandum by the Director of Agriculture, with regard to the qualities of the native corn, for publication in the Journal.

We obtained 100 bushels of Corn Feed from the St. Ann's Products Company. . . . . .

It costs £9 19s. 0d. delivered, (including bags charged at 10/-) or 1/9 per bushel.

The bulk was not equal to the small sample sent by the Director of Public Works which we analysed and reported on, and it would appear that 2 bushels of the corn feed supplied are required to equal 1 bushel of American Corn or an equivalent of 3/6 per bushel for American Corn. Our mules have been fed on this basis at Hope and the Superintendent reports that the results have been entirely satisfactory.

The shorthorn bull "Henbury Beau" was given all he would eat of this Corn-feed as he was delivered to me in a state of extreme emaciation.

The bull ate 24 quarts per diem for three weeks and his condition is now wonderfully improved.

I regret that we can not get any more Corn-feed at this price and have now to revert to American Corn. . . . . .

Average American Corn contains 12 o/o moisture and the average Country Corn sold in Kingston contained 12.7 o/o when we investigated this matter in 1905.

Badly cured samples of native Corn may contain 15 or 16 o/o Moisture.

On the other hand, Jamaica Corn contains 10 o/o of proteids as against 7 o/o in American corn. I am decidedly of the opinion that native corn is superior to imported corn, provided it has been cured in a reasonable manner. . . . . (Sgd.) H. H. Cousins, Dir. of Agriculture, 2/12/'08.

Half-Yearly General Meeting. It was agreed to hold the half-yearly general meeting immediately after the meeting of the Board in January at 12.30. The Secretary explained that the next meeting of the Board would fall on the 21st of January, which was the date of Bath show, which His Excellency, the Director of Agriculture and himself had arranged to attend, and suggested Thursday 28th January. This was agreed to.

Judging Prize Holdings. The Secretary submitted letter from Mr. Palache intimating that the Director of Agriculture had asked him to take part in the Teachers' Course at Hope in January, and asking for permission to do so.

The Secretary said that this might necessitate a postponement of the Prize Holdings Competition in St. Elizabeth, the judging of which had been arranged for the 26th January, and the work would have required all Mr. Palache's attention during January. It was agreed to postpone the judging until the 1st March if necessary to allow of Mr. Palache attending the Teachers' Course in January as requested, and have the month of February to work up the competition if required.

Reports. The Secretary submitted his report of Kendal show as follows :—

I beg to report that I attended Kendal show on 25th November in company with Messrs. Palache, Arnett, Hirst and Mennell, agricultural Instructors. On every side the show was voted a great success, and the arrangements on the whole were very good. I am sure the committee will accept some suggestions from me :—(1) That their prize tickets should be uniform colours right through, red for first, blue for second, and yellow for third or highly commended. In the agricultural products section the first prize tickets were white. (2) That the prize list as regards Agricultural Products requires considerable re-arrangement in the order of the products in different sections to suit the judging better, and in the quantities asked for, besides other sundries. I would also suggest that a black board be used in the ring to announce what event is on and the result of the judging; the prize winners in the ring might also be asked to ride or drive round after the awards to show the crowd who have got the awards.

Visitors from Kingston complained about not seeing much of the riding and driving, and if these events could be brought on a little earlier, it would probably attract more people from a distance; of course the rain delayed events somewhat.

As regards the agricultural products, they have taken a new lease of life from previous shows, but if the committee were only a little more liberal so that the Instructors could conscientiously push the show, I am sure it could be surely a grand show in this respect as well as in stock.

The competition set aside for Branch Societies resulted in only two Branches competing, Appleton and Newmarket, but they made splendid attempts, and the competition was very keen. The Appleton Branch had the best show as a whole, but in individual exhibits the Newmarket competitors were slightly ahead. This competition redounds greatly to the credit of the Newmarket people as they had a long distance to travel before they got to the railway. It was regrettable that none of the Manchester Branches took part: there was some excuse for the South Manchester people as they suffered very severely from the drought, but Porus and Christiana should have made an effort and judging from the exhibits at Christiana show and as they are so near at hand, they should have the best chance of winning.

The judging of the agricultural products was left mostly to the Instructors with some help. Mr. Arnett was called away to act as referee in the horse classes so this made us a hand short. As a result I saw very little of the other parts of the show, much to my regret.

Visitors from the North, themselves horse masters, were surprised and pleased at the excellent condition in which the horse stock was put in the ring. The cattle stock was also a pleasure to look upon, and the sheep were got up in excellent style for exhibition. Pigs and fowls were not of much account, but Mr Palache made an excellent display of his Belgian hares and crosses with native rabbits to illustrate the immense improvement of one cross. It is also gratifying that the finances will turn out well, and everybody concerned in the getting up of the show is to be congratulated in the effort made to restore Kendal show to its former efficiency and more.

JOHN BARCLAY, Secretary.

Also the reports and itineraries of the Instructors, which were tabled.

The Secretary submitted a request from the Albany Branch for Mr. Palache's services to lecture in February on Loan Banks. He was directed to reply that Mr. Palache's time would be all taken up in his own district in that month.

New Members. The following new members were elected :—

Don Eliseo Espaillat, Santiago, Rep. Dominicaña ; Jas. Hillary, U.F.Co., Cuba.

The meeting adjourned till Thursday, 28th January, at 11.40.

THE DUAL PURPOSE COW.

THERE have been endless discussions in the United States daily papers as to whether there is such a thing as a dual-purpose cow, *i.e.*, one giving a fair quantity of milk, and still with a certain aptitude to make flesh when dried off and fed for that purpose, which simply means that food that went to make milk before, when not required for that purpose makes flesh,—and flesh of good quality. They have settled this question ages ago in Great Britain where milk from Shorthorns and beef from Shorthorns form the largest proportion of both, so far as home supplies are concerned,

that are consumed. There is a good market for good beef in Great Britain and a poor market for poor beef. And there are no Chicago canneries, so that steers of the purely dairy breeds like Jerseys and Guernseys would never pay to raise and try to fatten, and so the superfluous young bulls are marked as veal. But the bull calves of the bigger Shorthorn breed from *cows that are milked as a trade*, do pay to raise and do make good steers. The fine South Devon breed of cows now coming much into notice have much the same characteristics as Shorthorns.

In the United States it should depend upon the man's trade as to what breed he should keep. If he can specialise on milk or butter, Holsteins and Jerseys would suit him best, as he can realise something on the male calves from the cannery. But for the farmer who makes the raising of beef a prominent part of his business, yet has an opportunity of disposing of a certain quantity of milk profitably, the dual purpose Shorthorn will serve his purpose best.

In Jamaica, town dairies may find Holsteins, Jerseys, Guernseys or Ayrshires suitable for their purpose, as the male calves can be sold as veal when there is no demand for them as bull calves, but for the country where beef is primary object, although a certain quantity of milk can be profitably utilised, either for a small village trade, or for making butter, those who have imported Shorthorn and South Devon bulls have done right. They are on the right lines of breeding.

We are so often asked for opinions on this very subject, that we also present, what we consider, solid opinions taken from two Journals of good standing in the agricultural world of the United States.

For the farmer who does not intend to make dairying the foremost consideration in his business the dual purpose cow is preferable, for while she may not equal the special purpose cow in production neither does she require the same amount of care and skill in handling nor the same quality of food, as a rule. The dual purpose cow can usually be disposed of to better advantage when no longer useful in the dairy, which must be taken into the reckoning, for it has been my experience that out of every half dozen heifer calves born not more than one will be found doing profitable work in the dairy at six years of age, and this without regard to breed. While the special purpose breeds can be depended upon to produce a greater percentage of profitable milkers, it is also true that a larger percentage of them die young, and also that a larger percentage of them after surviving the trials of calfhood succumb to various diseases, such as abortion, milk fever, garget, etc. The steer calf from the dual purpose cow can usually be disposed of either as a calf, a feeder or as finished beef at a profit, while the steer calf from the special purpose cow comes exceedingly close to a dead loss as for beef.

The impression is abroad to some extent among holders of small herds that the introduction of an improved bull into a small herd cannot be afforded, that the investment will cost more than the benefit will compensate for. Of course, the more use a man has for the improved sire the more his owner will get out of the investment. At the same time, pure bred animals of all the breeds recognized as desirable by our farmers in general, have become so numerous, that by attention and forethought in the matter, males of good breeding can be secured at an early age if so wanted at a cost within the reach of any farmer, and not

greater than the selling value of such animal at any time his owner wishes to dispose of him, or has had his use as long as wanted in that herd. This gives the use of a valuable bull for his beef and quite often the bull will sell for more than the first cost.

This brings improved stock of any useful breed within the reach of effort to get it. A small investment of money only is necessary in order to build up a choice herd.

For usual farm purposes it is not necessary to purchase pure bred females The bull, from a breeder's standpoint, is half the herd, and three generations bred in line with pure bred sires each time, will bring offspring as valuable for all ordinary purposes and as distinctively of the breed of the sires as if recorded females had been used. The breeding and building up of a herd of choice animals of any breed desired is neither an expensive nor a prolonged process. There is not sufficient pains taken to breed and rear superior animals.

In the exigency in which a breeder finds himself, where he can sell milk or cream, but who cannot afford to sacrifice, rejects from his herd for a mere trifle, the Shorthorn of milk-producing capacity fills a much-felt want. With milk and beef, a profitable double crop system can be established and this is the trend of current events.

"The Holstein is a good performer at the pail and takes on flesh rapidly when put on feed," said a New York dairyman, "but it is'nt the kind of beef the butcher clamours for. The Shorthorn cow puts on valuable gains while the Holstein makes coarse beef. I sent some fat Holstein cows to the Jersey city market not long ago and was surprised at the way Shorthorns outsold them. The butcher said he knew his business, adding that he could not fool a New York meat handler with the carcass."

"Don't overlook the disposition of the Shorthorn cow," said a Buffalo buyer. "On our market they will leave everything else to bid on a good roan. The Shorthorn is nothing if not docile. It is a domestic cow in every sense of the term and that is why the dairyman likes them in his herd. Easily fattened, the Shorthorn cow will extract enough from the butcher's pocket to purchase a substitute."

"When you get one of them you know you will have no trouble in making a trade at a profit," said a jobber. I asked a New Jersey dairyman last week why he turned a deaf ear when solicited to put a bid on special dairy cows. His reply was: "These good Shorthorns test almost up to the Holstein and Jersey standard as to flow of milk in competition with the former, and butter fat with the latter. The Shorthorn has a distinct advantage over the Jersey when milk is marketed, and if butter production is aimed at, it beats the Holstein."

This represents the case from the viewpoint of the dairyman. Where does the breeder come in? Little argument ought to be needed to convince that the 75o/o of poor to fair milk cows marketed at Chicago, that are slow sale anywhere from $20 to $40, could have been doubled in value by proper breeding methods. The big Shorthorn cow, always in demand at $60 or higher, costs actually no more to produce than the $30 scrub, and the latter is always

conspicuous in the market while the $60 cow is denied the representation it merits. There comes marketward a never-ending procession of wretched bovine specimens, poor performers at the pail and worthless when beefed. They had a legitimate value at only one stage of their career, and that was when they could have been profitably vealed. By intelligent breeding methods a good cow could have been produced instead and the breeder profited in the aggregate to an incredible amount.

Nothing herein contained is to be construed as disparaging the special dairy cattle. The Holstein, the Jersey, and the other dairy breeds all have their spheres of usefulness, but the milking Shorthorn is distinctly the cow for the farmer and especially for the small country dairy man. The cheese maker and the butter maker who specialise in these products, find the special dairy cow best suited to their purposes, but there is little market demand for such cattle especially when they are merely grades. On the other hand, present and prospective demand for the healthy, docile, milk-producing Shorthorn that is worth as much for beef as a steer when her days of usefulness as a milk producer are over, warrants the assertion that supply will always lag behind.—*The Breeders' Gazette.*

SHIPPING OF ORANGES.

If page 247 of the JOURNAL for August is referred to, where a report on the orange industry of Southern Spain is printed, it will be found that the shipping of immature fruit is noted as one of the great drawbacks to the full success of the industry there. In Florida the same complaint is made :—

Unfortunately for the business much unripe fruit, both oranges and grape fruit—hard green and juiceless—has been shipped. The marketing of such fruit has been ruinous to the growers' interests, and is annually causing many growers, who will not ship their fruit until it is ripe, serious financial loss, and at the same time injuring the reputation of the world-famous Florida orange.

There has, however, been much less green fruit shipped this year than during the three or four previous years, owing largely to the persistent and strenuous condemnation of the practice by the press and the most conservative growers of the state. An effort is being made to stop this harmful work by legislation, or by the assistance of the state and federal authorities, and the Kissimmee Board of Trade will petition Governor-elect Gilchrist to recommend to the next Legislature the passing of an act requiring the labelling of all packages containing unripe citrus fruit as "green oranges," or "green grapefruit," or otherwise identifying all such packages as detrimental to public health, and also requiring the inspection of all citrus fruit shipments.—*New York Tribune Farmer.*

In California, fruit-growers have reached such an advanced stage of combination and co-operation, that there is on the other hand no trouble with immature fruit—their fruit is shipped to the ends of the earth, has no trouble in getting a market at any time over the top of any other fruit, and does the State credit.

Tasmanian apples are shipped to the United Kingdom some 10,000 miles and reach the markets in midsummer, in the finest possible condition. But there is a rigid State inspection in force, and only since it has been in force has Tasmanian fruit secured a certain market. The Australian States have all strict systems of inspection of all perishable products, and Queensland oranges shipped 12,000 miles, open up in London markets better on the average than Jamaicans shipped less than half the distance.

It has always been a debateable subject in Jamaica, what should be done to secure a larger market for our oranges which are not at their best either in colour or flavour until the cool nights come on, and it is just then that oranges from Spain and Florida going in to the markets of the United Kingdom and the United States, respectively, merchants close down on Jamaica oranges. Yet our fruit then is in better condition to ship, has better colour, and unsurpassed flavour, and would do us infinitely more credit if it arrived in good condition. That it can ship well then,—and up to March—is proved, by the fact that small shipments by careful growers and packers on a small scale, go on all the time and sell at as high prices as any other oranges. But at present our markets are practically confined within limits of three months, and we have such a chance only because nature favours us in giving us fruit fit to eat earlier than Spain and Florida. But through the careless, unscrupulous, methods of some buyers and shippers in sending away immature oranges, hard, juiceless, and in addition, often fraudulently packed and marked. even this early market would be lost to us if the markets had any choice of oranges in these months.

This ought to hurt our pride if we had any—it certainly makes us personally ashamed, and in our correspendences it is annoying to have so often to make excuse for what is nothing short of wrong doing. Every year goes up the cry of no sale for oranges, when they are just at their best, and thousands and thousands of pounds worth go to waste. Yet there is a market for our oranges if we could only adopt the methods and care that practical, shrewd, countries determine to adopt and practise. and have put in force by law, not leaving it to the option of a few short-sighted individuals to spoil the credit of a whole community, and thus they have got markets over our heads. Sometimes the steamers are at fault in oranges arriving in bad condition, and sometimes merchants are at fault at the other side, but the principal faults are here.

JAMAICA ORANGES IN CANADA.

A good many Jamaica oranges are now to be seen here and all the way from 15d. a dozen retail. The California navel, however, is pre-eminently the favourite and no wonder. A box of such when opened up is a picture, beautifully packed, artistic wrappers, and the fruit 'shining' bright and looking as if just off the tree.

It seems hopeless to expect that Jamaica can ever reach California's standard of excellence in this respect. The most

rigorous selection, careful packing and cool ventilated chambers on board ship may help very largely, but even then a "grown-to-order" orange like the California would be ahead.

A duty of 21d. per box on all foreign grown fruit entering Canada would encourage Jamaica growers to emulate California, and this, I believe, by energetic representations could be secured, for dealers here seem to favour it, saying that the country is made the dumping ground for all American fruits.

With grape fruit it is the same story as with Jamaica oranges—careless packing—wasty condition—amounting as one dealer here told me in some instances to 20 o o.

My brother recently sent about 20 boxes of grape fruit here and they are now in a fruit dealer's store here for sale. These are an object lesson in what careful, conscientious packing etc., will do. I saw a box of these opened up and as the dealer remarked, they are in every respect equal to the best Florida packing of fancy grape fruit, and do Jamaica credit. What is more: they are selling as high if not higher than the best Floridas.

There is a big and increasing market in Canada for all Jamaica fruits, but if any headway is to be made in ousting California and Florida like fruits, more common decency in packing will have to be exercised.—*Montreal Correspondent.*

TRAPPING MOTHS.

In Chambers' Journal for December there is a paragraph on "Trapping Moths by Electric Light," which reads as follows :—

"In order to mitigate the pest of caterpillars which is wreaking such havoc in defoliating the forests of Germany, a novel expedient has been adopted. The irresistible fascination of the candle-flame to the moth is well known, and entomologists are aware that street electric arc lamps afford a happy hunting ground. The German authorities have turned this point to advantage. An electric light is erected on a suitable tower, beneath which is a deep, funnel-like vessel carrying powerful exhaust fans. These electric lights are fitted with powerful reflectors, which project the light in two well-defined rays upon the dark background of the forest, half a mile away, in much the same way as the beams of a searchlight. The result is described as remarkable. The hordes of brown moths that lay the eggs producing the caterpillars in such enormous quantities, dazzled by the light, come fluttering hastily towards its source. As they near the lamp they become caught in the vortex set up by the revolving fans, are sucked up, and swept through the funnel into a suitable receiver, subsequently being destroyed in the furnaces. So eminently successful was the first night's experiment when some three tons of moths were caught, that another similar installation is being erected. Though the defoliation of the trees may not be completely arrested, this wholesale destruction of the

plague will certainly result in a heavy diminution in the ranks of the caterpillars, and the timber will be saved."

[We in Jamaica are becoming more and more troubled by caterpillars not only eating guinea grass wholesale, but attacking cassava and cotton, and causing very great damage. The moths attacking the cassava are very large, and when the ordinary storm lanterns were used in the fields at night to attract them with pans of kerosine set below, there was not sufficient heat in the shaded lamps to cripple the large moths. At any rate, they refused to fall into the kerosine wholesale, and when they did, occasionally, they were often somehow able to save themselves. On a cassava plantation here, it has now been resolved to use open petroleum lights so that the moths will have an opportunity to scorch themselves. This idea would probably also be able to save cotton largely from attacks of caterpillars by getting rid of the moths.—ED.]

COMMERCIAL AGENT.

We notice that the various commercial agents of the Governments of the South African colonies and the dominions in Australasia, are pushing their country's fruit interests in the United Kingdom. We find in the *Fruit Grower* of London, mention of the industry and push of the commercial agent for Cape Colony appointed two years ago, and as a consequence of his work, the regular quotation of South African fruits in the London market. In October, South African oranges, 967 to 150 were quoted at 10/ to 11/; Jamaican 8/ to 11/; Australian 76 to 120, 16/6 to 21/; South African pears and peaches are also in the London market, and there have been oranges all the way from far Rhodesia. We note in the *Journal of Agriculture* of South Australia, extracts from their commercial agent's (in London) report. He deals with poultry, lambs, butter, honey, and most of all, fruits. He reports on the condition of shipments of oranges, and the *Journal* goes on to say—"Since his appointment to the office of commercial agent, Mr. Norton has taken a keen interest in the possibilities of securing better prices for the preserved fruit shipped to London. During the past year he has very carefully watched this line of products."

WOOD ANTS.

WE mentioned in last JOURNAL that advertisers did not take proper advantage of the pages of the JOURNAL, and we gave as example, letters we had received about wood ants attacking hives and eating through the wood, and also the frames, and correspondents asked us what could be done to prevent these attacks.

We knew of certain proprietary articles which are stated to prevent such attacks, and are also useful to the agriculturist for

many other purposes ; but none of these articles was advertised in the JOURNAL. We, however, referred our correspondents to certain advertisers who stocked the articles. We have received from Mr. Leonard de Cordova particulars regarding "Solignum," now advertised in this JOURNAL. It is of the nature and colour of varnish, said to preserve wood better than tar and looks very pretty besides. White ants will not touch wood treated with Solignum. It is a preservative against dry rot ; rats do not like it, neither do cockroaches nor beetles, and it does not make wood inflammable. Often where decay has commenced Solignum will stop it. One of its most important purposes is to prevent and cure canker in fruit trees. Canker is very common in cocoa, and if Solignum stops it, this will be a boon. All cut surfaces on trees can be dressed with Solignum with advantage. Altogether, this is likely to be a most handy and useful substance.

WELSH PONIES.

A good many people have at times inquired for information regarding the breeding and particular purposes of the Welsh pony, the Society's imported stallion, "Sir Gerald," being of that breed. He is one of the modern type of Welsh ponies which stand higher, have more substance, and are more stylish than the original mountain pony. The improved type is particularly useful as harness ponies, not so showy as the hackney ponies, but of more utility for those who wish a stout, good-trotting, sure-footed, hardy, well-kept, and eminently healthy beast of good substance. Those Welsh ponies which have some hackney blood in their veins—frequently having been used for crossing with the larger pony mares—are possessed of particularly good and often really high-stepping action, while they further usually are of exceptionally good conformation, and show very nice quality.

From the descriptions which have been given respectively of the small, true-bred mountain ponies, and of those belonging to the larger and improved or developed breed, it will be gathered that the two kinds differ considerably from one another in their type, apart from the difference in their size. The former are altogether much lighter in their build and narrower in shape, and they have not got that cobby, compact and thick-set character which is so typical of the latter. Very commonly, the mountain pony and the larger cob-like pony are crossed with one another, and as the result of such inter-crossing, one finds that a great many Welsh ponies are of a type which is intermediate between that of the pure mountain pony and that of the larger breed, and of this intermediate type, several gradations are met with, according to whether the mountain pony blood or the blood of the larger and cob-like type predominates. In 1902, the Welsh Pony and Cob Society was formed by breeders, its objects being to promote the interests of these breeds generally, and to improve them, while it also publishes a stud book.

The Society has done, and is doing, much useful work. The establishment of the stud book in particular has been attended by very satisfactory results, and is an important factor in preserving purity of breed.

The breeding of ponies forms a most important industry in Wales, and is a source of considerable profit to many Welsh farmers. The pony-breeders in the Principality breed very largely for the English market. A great many ponies are annually bought up by English dealers at Welsh fairs, who distribute them over the country. Welsh-bred ponies are in great demand in England, and find a ready sale everywhere. They enjoy a high reputation for general excellence, stoutness, and soundness. The best of them are used for trapping purposes, and they are excellent for harness work. The majority are bought by tradesmen, or are worked in the various kinds of carts and small vans used for business, commercial and trade purposes. Those Welsh-bred ponies which have a strain of hackney blood in their veins, and in consequence possess specially good action, make fine, showy harness ponies, and such, of course, command a good deal more than the average price which ordinary Welsh ponies fetch in England.

LIME AND SULPHUR WASH.

In the June number of the JOURNAL, we published an account of the use of lime and salt spray for fruit trees, without the sulphur, as carried out in England. The lime, sulphur and salt spray is an expensive combination, and if we can find that one of the ingredients can be left out, and still secure the same good results, it will be economical. We think, however, the sulphur is required in this wash, as it has also the effect of a fungicide. We now find from a report of the U. S. A. Department of Agriculture that a lime and sulphur wash has been tried, leaving out the salt, and found to be not only an excellent remedy for scale on fruit trees, but also a better fungicide than Bordeaux mixture under certain conditions. The Bordeaux mixture was found to injure the foliage when applied in the growing season. It has been reported here that the lime, sulphur, and salt wash does the same to certain trees or at certain times ; but it seems that the lime and sulphur mixture can be used on trees during the growing period without injury to the foliage or fruit, if the mixture is suitably composed for the kind of fruit trees it is applied upon. It must be borne in mind that what suits an apple or peach tree in the north may not suit an orange or grapefruit tree here, but we think that our trees can stand more than a peach tree. Here is the proportion found to give the best results:—10 lbs. of flowers of sulphur, 15 lbs. fresh stone lime, to 50 gallons of water, prepared as follows :—Place the lime in a 50 gallon barrel and pour two or three gallons of boiling water over it. Immediately add the sulphur, and then add two gallons of hot water. The heat from the slaking lime will boil the mixture violently (this is

termed self-boiling) for several minutes. Keep stirring and add more water if the mass gets too thick to stir: but the cooking is more effectual if just enough water is used to allow the mixture to be stirred, usually from 6 to 8 gallons is required. A piece of old sacking thrown over the barrel helps to keep in the heat. The boiling will continue from 20 to 30 minutes, depending upon the quantity of the lime. When the boiling ceases dilute with cold water to make 50 gallons. Stir thoroughly and strain through a fine sieve in order to take out coarse particles of lime, but all the sulphur should be carefully washed through. If this on experiment, is found to injure the foliage, it can be diluted. In some of the experiments, a wash consisting of 5 lbs. of sulphur and 10 lbs. of lime to 50 gallons of water, gave good results. If the mixture is found too caustic, the boiling should not be allowed to last as much as 20 minutes. By the boiling process the sulphur is in good mechanical condition for spraying, and enough of it is dissolved to make the mixture adhesive. When applying the mixture must be kept thoroughly stirred. It should be applied in dry weather else the mixture gets washed off with rain before it has had time to have effect.

In the JOURNAL for July 1899, an article from the *Fruit Grower*, London, was printed, strongly advocating and giving sufficient reasons for its advocacy—an annual wash of all fruit trees with a lime and sulphur wash (in the proportion of 4 to 1) after each crop. It was also recommended to throw a handful of fine lime into the heads of all fruit trees. November and December are the best months to carry through these renovating and stimulating processes.

COTTON.

I have taken great interest in the cultivation of cotton since the fifties of the last century, although not practically concerned therein. I contributed (anonymously) several articles to the press on the subject before and after cold water was thrown on it at the time of the Norman-Gray Commission to this Island.

The records of 'crop accounts' in Jamaica commence only from 1740. I am of opinion the cultivation was on a larger scale previously, and had been partially set aside to make room for the sugar cane. I had a note by me of having come across a record in the Island Record Office, of a property described as adjoining Mr. Peter Beckford's Cotton Plantation in Clarendon. I find in the crop accounts of 1740–41, that the shipments of cotton were from St. Dorothy, St. David and Vere, the latter particularly. There were shipped in 1740 from Mr. Henry Vizzard's plantation, 21 bags weighing 5,288 lbs. Mr. Hy. Priddie's in Vere, 2 bags 354 lbs. at 8½d., from Mr. Christopher Ebzery's, same parish, 1 bag, for £5 6s. 10d. Prospect Plantation, belonging to the estate of Edward Pratton and John Anderson, deceased, 18 bags, 2,606 lbs. net pro-

ceeds, £99 4s. 1½d. Capt. Lancelot Lake's estate in possession of Geo. Roberts and Robt. Spence's executors, 6 bags 1,084 lbs. at 10d., 7 bags 1,343 lbs. at 9½d., 17 bags 3,165 at 8d. Estates of Wm. Russell, deceased, St. Dorothy, 12 bags 2,229 lbs. net, of 8½d. Estate of H. S. Harry, a minor, in possession of Jno. Hammond, executor, St. David, 5 bags cotton, showing a net balance of £62 15s. 7d., after paying for bagging 12s. 6d., freight 18s. 9d., wharfage and storage at 3½d., commission for selling £1 10s. 3d. Amongst the articles named in the records of the estate of Geo. Goldring of Vere, planter, deceased, mention is made of cotton.

Spanish Town. GEO. F. JUDAH.

WOODLAND AND RAINFALL.

THE question of deforesting is not one which affects the *total* rainfall of a place so much as the *average* rainfall, and again not so much that as what becomes of the rain that does fall. Where hills are not wooded the rain runs off the soil quickly, and ten times the rainfall will not keep the ground moist as when it sucks it in. Belts of forests on the hills and slopes not only attract rain clouds, but they break the force of heavy rains from the land, so that the soil is not washed, but is able to absorb the moisture, and pass it off gradually.

ANTS AND CACAO TREES.

Among other observations carried out by officers of the Department was one, which discovered the larvæ of a small moth of the family *Geometridæ* cutting up the flowers of the cacao tree. It is hoped later on to afford further information as to the damage caused by this little insect, but for the present, it is our object to record the fact that a small ant often found on cacao, is its deadly enemy, the specimen bred out, being destroyed by these little creatures. Some time since ants were condemned as enemies, but we can now record one of them as the friend of the cacao planter by its destruction of a caterpillar which was detected eating away the blossom of the cacao tree.—*Trinidad Bulletin.*

[We have had it noted in the JOURNAL that certain kinds of ants —one kind at least, perhaps two—destroy the white scale on citrus trees. Close observation by cacao growers might discern if any kind of ant is in any way beneficial to cacao trees. All that we have seen on cacao trees have been injurious.—Ed.]

WHEN flies worry horses and other domestic animals, a cloth damped with kerosine oil and passed over the coat, will stop all insects from taking their meals off the poor beasts. This should be done daily. Carriage and riding horses may be so treated, as the smell of the oil disappears in half-an-hour.

REPORT ON COTTON CONFERENCE,

Held at Manchester and Liverpool, England, August 1908.

SIR,—I submit the following Report on the Cotton Conference held at Manchester and Liverpool in August, which I attended as the representative of the Agricultural Society. It has been delayed awaiting the Report of the Proceedings which reached me shortly before I left England.

2. In every way the Conference was very successful. Five sessions were occupied with discussions, and one morning was speut in a visit to various works at Oldham. I am told that reports of our operations and of the splendid hospitalities with which we were honoured have already appeared in the Papers. I need not, therefore, do more than ask that the thanks of the Society be forwarded to the British Cotton Growing Association, under whose auspices the Conference was held, for the generous arrangements it made for the delegates.

3. I send herewith various papers connected with the Conference, including:

(1) The Proceedings of the Conference—three copies.

(2) Report of the British Cotton Growing Association for 1907.

(3) Report of the visit made to the West Indies by Delegates of the Association in 1907.

(4) Some reports and articles from English newspapers dealing with the Conference, which came to my notice.

4. One of the newspaper cuttings I send has interesting statistics with regard to the past and present output of cotton from the West Indies. At one time Lancashire got all its cotton from them, and up to 1787 they were the principal source of supply for Great Britain. Then came decline, which was not a consequence of the abolition of slavery, for it began prior to Emancipation. In the years 1815 to 1855 the West Indian export fell from 28,058 bales to 1,667, and forty years later to about 750. The output now is about the same as at the time of Emancipation. Other countries in the meantime were developing cotton growing with extraordinary rapidity. In 1784 a shipment of eight bags from the United States was questioned at Liverpool as an impossible amonnt for that country to export. The U. S. A. crop of last year was 1,693,750 bales of 400 lbs. each!

5. During all its history the quality of the West Indian cotton was of the best, and it remained valuable for mixing with other sorts after it had become insignificant in quantity; and during its best days cultivation must have been careful, as it is said to have averaged a yield of 300 lbs to the acre, which is higher than the yield to-day

in the United States. The best kind of long staple cotton now grown in America was started from Barbados seed in 1784.

6. A tabular statement (A attached) which the Secretary of the Institute has kindly sent to me, shows how Jamaica compared with other Islands in export of cotton in 1801-2: Mr. Cundall also shows me the map in Leslie's History of Jamaica (1740) which gives the estates of the time in "Cotton and Provisions." A map showing the old cotton estates of the Island was specially prepared for the Agricultural Conference in January 1907, and is still, I am told, in existence.

A.

Extract from an account of Articles imported into Great Britain in the year 1801-02.

	Lbs. Cotton		Lbs. Cotton
Antigua -	56,598	Demerara -	7,622,942
Barbados -	2,668,911	Martinique -	796,727
Dominica -	34,621	St. Lucia -	422,119
Grenada -	1,603,128	Surinam -	1,803,262
Jamaica -	4,795,315	Tobago -	24,989
Montserrat -	45,411	St. Thomas -	525,264
Nevis -	48,391	St. Croix -	37,344
St. Kitts -	328,868	Curacoa -	173,571
St. Vincent -	328,829	St. Bartholomew -	202,893
Tortola -	567,711	St. Martin -	19,072
Trinidad -	1,289,573		
Total from B. W. I. -	11,767,356	Total from "conquered Islands" -	11,628,183

Another table (B attached) shows the cotton exports from West Indian colonies since the recent resuscitation of the industry.

B.

A Statement showing the amount of Cotton and the value of Lint and Seed exported from the West Indian Colonies from January 1, 1902, to June 30, 1908.

Year.	Weight in pounds.	Estimated value of Lint.	Estimated value of Lint and Seed.
		£	£
1902	328,530	7,366	9,676
1903	397,541	9,031	11,873
1904	698,981	26,930	31,891
1905	1,122,800	47,846	63,290
1906	1,577,431	69,092	90,274
1907	2,013,698	172,204	186,510
9 months ended June 30, 1908.	2,648,613	196,335	215,150
Total	8,787,594	528,804	608,664

A third table (C) shows each island's contribution to the export of the last year. It will be noticed that Jamaica finds no place in this list, nor British Guiana, nor Trinidad, nor Dominica, nor St. Lucia.

There appears to have been distinct failure recently to grow cotton successfully in British Guiana and Trinidad; perhaps suitable modern varieties have yet to be found for those places The other Islands named have produced an insignificant quantity.

C.

A Statement showing the amount and estimated value of Sea Island Cotton Lint and the estimated value of Lint and Cotton Seed exported from the various West Indian Islands during the period October 1, 1907, to June 30, 1908.

(These Returns are furnished by the Customs in each case.)

Colony.	Bales.	Quantity in lb.	Estimated value of Lint.	Estimated value of Lint and Seed.
			£	£
Barbados	1,871	893,804	61,885	68,234
Montserat	1,880	657,337	50,950	55,620
St. Vincent	1,180	414,820	31,111	34,059
St. Kitts	805	232,206	18,440	20,089
Nevis	718	201,515	15,672	17,104
Antigua	754	150,800	10,840	11,913
Anguilla	381	76,200	5,724	6,265
Grenada		11,761	963	1,046
Virgin Island.	58	10,170	750	820
Total	7,647	2,648,613	196,335	215,150

7. Having no practical knowledge or experience of cotton cultivation, I was unable to contribute anything of value to the various discussions of the Conference. I take it, however, to be my duty to endeavour to report, as fully as I can points in the discussions such as have seemed to me of importance.

The points of leading interest (being those on which the prosperity of such an industry depends) would be :—(1) the average yield to be expected per acre; (2) the cost of production; (3) the price to be obtained for the product. In none of these, of course, was it to be expected that definite figures could be arrived at.

8. As to the yield per acre.—In one planter's experience it had varied from 240 lbs. to 40 lbs ! In Barbados the average yield per acre last crop was 127 lbs.; in St. Vincent in 1908 it averaged 135 lbs., in 1907, 175 lbs., in 1906, 174 lbs.; in Montserrat this year 175 lbs. It is stated by every one that the weather in the past year was most unfavourable, and it is likely that in some islands, *encouraged by recent high prices, cotton has been planted in unsuitable places,* or by people who are careless in cultivation, or in quantities too large for proper supervision. My impression is that about 175 to 200 lbs. per acre might be reckoned as an average crop of Sea Island Cotton with good cultivation, and reasonably favourable conditions. A St. Kitts planter reported that a plot planted 4 x 2 feet gave 54 lbs. more lint to the acre than a plot

planted 4 x 3 feet and 186 lbs. more than one planted 4 x 4 feet. The producer having practically no control of market price, there was much insistence on every effort being made to improve yield—for 200 lbs. per acre at, say, 1/2 would be more profitable than 150 lbs. at 1/6. Plants should be improved by thorough selection of seed, so as to secure hardier and more prolific qualities, and they should be suitable to the locality: there should be continuous experiment with manure, and every effort made to control disease and the pests which prey on cotton; and we were repeatedly warned against ratoon cotton, and against allowing crops to overlap, the old bushes left standing while the young ones are growing, and thus handing on pests to them. In Montserrat all cotton planters for the last three years have agreed to destroy old plants entirely, and the average yield in the last (unfavourable) year in Montserrat has been the highest in the West Indies. In one of the Danish Islands the destruction of the old plants is secured by legislation. Any one interested in the subject should obtain the *Report of a Conference of Barbados Cotton Growers* held in May, 1908.

It appears to be accepted in Barbados that the best planting time is from June to September. In St. Kitts June is said to be the best month.

9. As to the average cost of production of cotton it is as impossible to quote reliable figures as with regard to the average yield per acre; the previous cultivation of the land, the price of labour, the success and yield of the crop, and weather conditions—these are only some of the determining factors: and a great deal depends on whether it is grown as a rotation crop, or as a side show, (in neither case being chargeable with all the expenses of an estate), or as a main crop. The impression is that it would cost in Jamaica about £8 per acre as a main crop; about £6 as a side show, (e.g. on a pen or banana estate); perhaps about £5 per acre as a rotation crop for fields temporarily lying idle on a sugar estate. In Barbados four estates in one year averaged £8 1s. 8d. per acre; one estate for four years averaged £9 5s. 2d. In Montserrat the cost was given as between £8 and £9. In St. Kitts £5 per acre was given as the cost, grown as a rotation crop with sugar, and the yield was 200 lbs. In this last case, the general upkeep expenses of the estate were not charged to the cotton as they would have been incurred anyhow.

In Barbados, Antigua and St. Kitts, cotton has been found to be a profitable rotation crop on sugar estates, allowing two years to the cane and one to cotton, instead of an idle year. The land is kept in cultivation and clean for the resumption of sugar cane, and the change of crop may be as beneficial to the soil as a year's rest.

10. As to the price to be expected for cotton:—In the depression of the present year, the price for Sea Island varieties is said to be about 5d. per lb. lower than last year. The apprehension was evident amongst planters that the fall is due to over-production of

Sea Island quality. But we were assured in the most positive way, by those who are almost as much interested as the planters in the profitable maintenance of the industry that this is not the case, but that it is mostly due to trade fluctuation and the financial complications which began last year in the United States and still operate. The prices of cotton last year also were abnormally high. It seems that we may still trust the estimate of the average value of West Indian cotton, as given by one of the Association delegates, who visited the West Indies last year, and warned his hearers that 1/ to 1/6 (not 2/ to 2/6) would be the normal value of their product.

11. Price of course depends on the quality of the cotton we grow: and we were repeatedly urged both by the officials of the Imperial Department of Agriculture, who know better than any one the general conditions under which these islands produce, and by the representatives of brokers and manufacturers who attended the Conference, to adhere to the long staple cotton of the Sea Island type.

12. Sea Island cotton has often been understood to describe a particular variety which would command a particular price. As a fact, it is a wide term, covering a class of cotton it is true, but one that includes varieties of very different value. America supplies about 95,000 bales of "Sea Island" cotton in the wider sense of the term; the West Indies say 7,500 bales. Of the American supply, about 55,000 bales are classed as "Georgian": this is the poorest sort, and is grown on the mainland and is worth now about 13d. per lb.: the West Indies supply about 1,000 bales of this quality. The next class is the Florida type: America supplies about 30,000 bales of this; the West Indies about 1,000 bales; and it is worth 14d. per lb. Of "Sea Island" cotton (in the limited sense) America supplies from 10,000 to 12,000 bales, of which about 8,000 bales are classed as 'graded Sea Island': it is grown by small people, graded by factors, and shipped in lots of from 50 to 100 bales, and it is worth now 15d. per lb. The bulk of the West Indian export, say 4,000 bales (out of total 7,500), is of this class. The best of the American Sea Island cotton is known as 'Carolina crop lots'; it is grown on the islands off the coast of Carolina by planters of reputation and experience, only amounts to about 4,000 bales and is worth from 16d. to 20d. per lb. The West Indies now supply about 1,500 bales of this description and it comes chiefly from St. Vincent, some also from Barbados and St. Kitts.

13. The experts who handle our cotton appear to think there is danger of our making length and fineness of staple too important an object. That each place should grow the best it can grow goes without saying, but extra length and fineness bring the article into a limited market—the market for fine laces and luxuries, which is the first always to feel depression and slackening of demand; and strength of fibre is the chief essential. For the second quality of Sea Island cotton, with strong if somewhat coarser and shorter sta-

ple, the 'bread and butter' cotton as it is called, there is said to be continuous and unlimited demand, and the greater hardiness of the plant will probably compensate for slightly lower prices. Specimens of this cotton were exhibited, and the Imperial Department of Agriculture may be relied upon to collect seed of this quality for distribution next year. Intending planters here would do well to import such seed.

The cotton planters appeared to agree that a price of 1/4 with a yield of 200 lbs. to the acre, would afford fair profit. Most of the planters present said they made something out of an average of years, and declared their intention to continue cotton growing and to increase their cultivation.

14. The growers were urged by those involved in the business on the other side to grade their cotton carefully, mixed cotton being an abomination to the spinner and inevitably sold cheap; to make their shipments as large as possible, instead of despatching their crop in small instalments; to secure that bills of lading bear the marks and numbers fixed on the bags; and to ship to a single agent so as to avoid competitive selling, which is certain to break the market price. Sir Alfred Jones offered to carry all Jamaica cotton in his ships free of freight for one year.

15. In order to secure for producers the real value of their produce, it would be a good thing for the Association to have a purchasing agency here with a properly qualified valuator. Such agencies buy West African seed cotton on the spot in Africa, and they pay a penny a pound for what fetches only about half the value of our cotton when ginned. Scattered merchants with no expert knowledge cannot be expected to venture beyond a minimum possible value. And as soon as we establish the industry on any scale we shall need a cotton oil factory, so that we may keep the seed in the Island and make meal for stock; the best means of refertilizing cotton land.

16. The British Cotton Growing Association has a very successful record for the six years it has been in existence. At first, with a capital of £50,000, its operations were experimental and philanthropic; it gave grants to cultivators, sent out instructors and gave machinery. Now as a chartered company it works on commercial lines, undertakes to market cotton consigned to it on a 1 per cent. commission, advances up to 75 per cent. to approved shippers on the value of shipments, supplies machinery and stores on a 2 per cent. commission, giving to its customers the benefit of discounts and accepting payment in instalments, if necessary, with interest charges on advances; and arranges for the insurance of crops from the time of reaping until they are delivered in England. For the next four years under its charter, any profits must be expended in promoting cotton growing in some part of the Empire. It proposes to concentrate its efforts in the future in West Africa, East Africa, and the West Indies.

17. One of the reasons argued in explanation of the little progress cotton growing has made in Jamaica, was the want of capital

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amongst agriculturists; and the demands made by hurricane, earthquake and drought, have no doubt stood in the way of such a new industry. Such difficulty would be readily met by the operation of an Agricultural Bank, if we had one. I have no information as to whether the Cotton Growing Association would be prepared to entertain applications for small loans. Such a matter would require careful safeguarding, for anything like indiscriminate lending would be a misfortune, morally and financially, and to both sides. We cannot afford any disappointing investments of English or other capital in cotton, yet it might be possible, just as in St. Vincent the land settlement scheme was made leverage to secure proper cultivation, so to use loans, as 'schoolmasters' in the development of the industry here. But preliminary favourable report on the applicant and his schemes, and proper supervision of the cultivation by an Agricultural Instructor or other qualified person, ought to be essential conditions, if ever this comes up for consideration.

18. It seems to me that the time has come for us in Jamaica to come to closer quarters with the question of cotton growing than we have so far done. In the more or less remote past all these Islands have produced cotton of exceptional quality, and several have recently repeated such successes, to whose conditions our own are, to a superficial observer, very similar. There are large districts which are said to be likely to suit the cultivation, cheap land lying idle and easy for cultivation with implements, because much of it has been under cultivation already, but unsuited for the more profitable crops which engross our attention. Labour is certainly cheaper and is said to be much more reliable in its general character than in the cotton growing area in America. For the larger planters, it would be out of place for me to offer suggestion or advice, but for the smaller people our Agricultural Society has responsibilities and we should consider if anything can be done, and if so what, to add cotton to our staple industries. In the past it has, perhaps, been sound policy to refrain from advocating it until the larger estates might make some success with it and establish public confidence in its capabilities, though it was never sound to depend on the cultivation of the larger estates to diffuse the knowledge necessary for cultivation. How few of the peasant cultivators over the greater part of the Island have even now adopted plantation-methods in the cultivation of their bananas!

But one is impatient to see Jamaica benefiting by cotton, if this is not impossible; and the experiments that have failed are certainly not convincing. Both in Barbados and Antigua cotton is said to have been not only moderately profitable in itself, but actually beneficial to sugar as a rotation crop, and to have benefited the labouring classes by diminishing the unemployed and improving wages. In Montserrat there were last year 850 plots, aggregating 400 acres, which brought in £3,300 to the cultivators. In St. Vincent, cotton has added over 20/ to the annual exports per head of population and has rescued the island from great distress.

It is said to be unsuitable as a peasant's crop, because of its fluctuation, and the difficulties of its cultivation. But it is the peasant rather than the employer who is best able to face a fluctuating yield, having nothing but his labour invested ; and it is common experience everywhere that home industries may be very advantageous although they cannot be measured by a purely commercial standard, and in Jamaica that many articles can only pay the peasantry to grow. And, as to the difficulties, the 'graded Sea Island' cotton of America, with which most of ours corresponds in quality, is mainly the growth of small men ; in fact most of the world's supply of cotton is grown by small cultivators and men of the labouring class. And in the African colonies, Lagos, Southern Nigeria, Uganda, Rhodesia, it is repeatedly stated in the Cotton Growing Association's Reports, that its main effort is to establish the cultivation as a native industry. Our peasantry will surely compare favourably with the natives of those countries in capability and intelligence, and we have a staff of Instructors the reason for whose *existence is to give the necessary instruction.*

I am, &c., J. R. WILLIAMS.

13th November 1908.

POULTRY.

[I have delivered lectures on rearing poultry before the Teachers at their Annual Agricultural Course at the Mico College, over several years, as well as frequently in the country. I have been pressed to publish the substance of these lectures in the form of a pamphlet for general reference and now propose to do so, but first, my remarks will appear as articles in the Agricultural JOURNAL. This is the first instalment.]—JNO. BARCLAY.

HINTS ON REARING POULTRY.

(Being a Lecture delivered at the Mico College, January 1909, in connection with the Teachers' Elementary Course.)

I have kept up a steady unfailing practical interest in poultry raising all the ten years I have been in Jamaica. The more I travel in the country parts the more deeply I am impressed with the vital necessity of good poultry to one's comfort.

No single meat stuff figures more prominently on the table in Jamaica than poultry. This is not realised so much in towns as in the country parts. Whether in private houses or lodgings, the most common meat dish for breakfast and dinner is some form of poultry. If it is not fowl, it is turkey, if it is not turkey, it is duck, and if it is not duck, it is occasionally guinea fowl,—and if we count in eggs, I should say, that more poultry products are consumed than of beef, mutton and pork put together. But fowls and fowl eggs are the most common form of poultry used. Country houses here are

scattered, they are usually far from market, and at any rate, beef, mutton and pork are not always to be got conveniently more often than once a week. The country housewife has to depend largely for the breakfast and dinner of the household on her poultry yard,—or some other body's poultry yard,—and if a visitor turns up unexpectedly for breakfast—as visitors do so often appear—well a young rooster's course of existence is suddenly terminated and he soon appears on the table,—too soon as a rule for perfect edibility. If a *fastidious tourist meets with diminutive* eggs and tough fowls, he is not likely to bless his meals in Jamaica. It should be one of our duties to try to provide good fowls and eggs for our visitors, who are a source of profit to us. In other countries—not so dependent for their own food on poultry as we are,—the value of the poultry industry runs into big figures. Russia alone exports to Great Britain over a million pounds worth of eggs, and Great Britain imports ten million pounds worth of eggs and poultry, while the amount realized for eggs and fowls in the United States yearly is two hundred and ninety million dollars, which is far greater than the value of the gold and silver produced from the mines there, and greater than the value of the sheep or cattle industries, the wheat crop or cotton crop. I estimate that an adult person in Jamaica in a fair position will consume fifty-two chickens per annum, and if we take the population of an age to eat some chicken to be six hundred thousand, and that they only get through one each in a month, well that is seven millions two hundred thousand fowls used per annum; and if they only eat one egg every other day, say three in a week on an average, that is one million eight hundred thousand eggs a week, isn't it? Well now figure out the fowls and chickens at an average value of one shilling each and the eggs at three farthings to be very moderate and conservative, and you will realise the value in £ s. d. of the poultry industry to Jamaica.

I find the greatest difficulty with poultry breeders is not so much what breeds they should keep as how to keep any breed at all successfully, that is, profitably; but the particular difficulty is to prevent several very common but fatal troubles among chickens, and when these break out how to deal with them. So I have a hen here —not a trained hen often experimented on—but one I have borrowed this evening, to treat before you. Before treating of diseases, I shall first speak shortly on (1) Breeds for home use and market; (2) Feeding; (3) Chickens; (4) Fattening for table.

In the first place this is the way to carry a fowl. You see it is simple and easy, and the fowl cannot flap its wings or struggle, yet it is quite comfortable—not this way head down—or this way hanging by the wings—both of which are the usual ways and are equally cruel. You tuck the fowl under your arm, that it cannot use its wings, and you grasp its legs in yonr hand.

Now about breeds. Cross breeds are hardier and give better results than pure breeds for the ordinary country family. Of course some people must keep pure breeds to keep up the standard, and

there are always some enthusiasts like myself who are willing to take special care and pains and keep at it steadily for years with the same breed or breeds, so that we may thoroughly understand them.

There are, however, breeds that do better in some localities than others—some do best in the hills, others in the lowlands, some stand wet weather, some don't. Then some are fine table birds like Indian game and Buff Orpingtons, others moderate like Plymouth Rocks and Black Orpingtons, others poor like Leghorns. Some are good layers like Leghorns and Minorcas and Wyandottes, some good medium like Orpingtons, some poor like Indian games. But egg laying also depends much upon strain—you can get Leghorns and Minorcas that are poor layers and Plymouth Rocks or Black Orpingtons that can make records. In the Australian States laying competitions have been carried through lasting a year, and although White Leghorns have had the best average in Western Australia, making a record of 249 eggs, the average of 6 birds in the winning pen, Black Orpingtons and Wyandottes have been first in several of the competitions. But nearly all breeds have made a good show. One winning pen was comprised of Langshans imported from China—their original home! The cross of a light breed and heavy breed gives the best all round results here. Constant fresh blood is the basis of strength and constitution here with poultry; inbreeding is the primary cause of much disease. Again it makes a difference whether you are breeding to sell, or for your own use. So long as eggs are sold by the dozen, all at the same price, it would not be judicious to sell such eggs as these before you which bulge out of the egg-cup,—Minorca and Black Orpington eggs—both breeds laying large eggs as a rule—at the same price as eggs like these which almost disappear in the egg-cup—the egg of a common little 2/ hen, bought for a sitter, yet the hens that laid these small eggs had the same feed as the others for a month past, rather more I think as she is sharper and greedier.

(To be continued.)

FOOT AND MOUTH DISEASE IN THE UNITED STATES.

On 16th November the Board of Agriculture and Fisheries received a cable message from the British Consul at Philadelphia, reporting that an outbreak of Foot and Mouth Disease had occurred near Danville, Pennsylvania, U.S.A. The Board at once notified their Port Inspectors and warned them to take special care in the veterinary examination of animals imported from the United States of America and Canada. It was not till the 18th November that the existence of the disease was officially confirmed, when the Board at once made and issued orders scheduling the State of Pennsylvania under the Foreign Animals Order of 1903 and the Foreign Hay and Straw Order of 1908. Special arrangements were at the same time made for dealing with cargoes of animals that had left Penn-

sylvania previous to the orders operating. Subsequent information received by the Board caused them to make Orders affecting the States of New Jersey, New York, Maryland and Delaware, similar to those issued in the case of Pennsylvania. On 28th November the Board made an order requiring the veterinary examination, on board the vessel prior to landing at the Foreign Animals Wharf, of cargoes of animals carried to this country from the United States of America.

The effect of the Board's Orders is to prohibit the landing of animals brought from the scheduled States; and also the landing of hay and straw from those States, except such as come under the provisions of Article 2 of the Foreign Hay and Straw Order. The ports at which animals are usually shipped to which the above Orders apply are Philadelphia, New York, and Baltimore.

The Canadian Government have forbidden any vessel carrying live-stock from a port in the United States to touch at a Canadian port, and have prohibited the entrance into Canada of any stock, for any purposes, that has been within the limits of any prohibited State within the previous two months, either in transit or otherwise, and they have also prohibited the shipment to Europe of any Canadian animals through any American port, or the shipment of any Canadian animals from a Canadian port in vessels carrying American stock.

The United States Government have absolutely prohibited the movement of stock from the States quarantined by their Orders, and have also prohibited the inter-state or foreign transportation of hides, skins and hoofs of cattle, sheep and other ruminants, and hay, straw and fodder from the quarantined area.

(Extract from The Journal of the Board of Agriculture, London, December, 1908.)

BEE NOTES.

In Hawaii it is reported that the bee industry is carried on very largely by syndicates who own colonies by the thousands. One company of Japanese, for example, owns 4,000 colonies. The American Sugar Co. has about 12,000, and so on.

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When ants get to bothering a hive mix some powdered borax in strongly flavoured honey in a saucer. Cover the saucer with coarse wire netting so as to exclude the bees, and set it under the front-board of the hive. That settles the ants in short order.

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Some experiments made show that, when working on clover, the bee's load rarely exceeds three-tenths of a grain of nectar, yielding from three-twentieths to nine-fortieths of a grain of ripened honey. That means that the nectar is boiled down to ½ or ¾ of its original weight. The ripened honey averages ⅘ grain per drop, but the bee must load up again and again to produce that drop.

We have known for a long time that, in a good honey-flow near home, as is often the case, no strain or variety of bees can surpass the pure blacks; and when the harvest begins to wane, when the nectar must be sought for far and wide, then the Italians hang on while the blacks do practically nothing; all things considered the Italians seem to be the best all round bees.—*Exchange.*

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FOUL BROOD IN IRELAND.—After much persistent hard work, the bee-keepers of Ireland have succeeded in obtaining the passage of a foul-brood law by the British Parliament. This law would never have been enacted without the powerful backing of the Irish Department of Agriculture and the sympathetic interest of the Irish Nationalists in the House of Commons. Thus far the English bee-keepers have failed to secure such a law though they certainly are in need of one as much as their Irish brethren!

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Cotton honey, when gathered from that source alone, and from rank growing, thrifty plants, is nearly if not quite as white as white-clover honey. This year we have had an abundance of cotton honey, and several other bee-keepers who know will confirm the above. When first gathered, cotton honey has a rather strong flavor of the plant itself, but as it grows older that is lost.

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CANE SUGAR VS. BEET.—Long ago Huber found out that raw sugar, when fed to bees that were engaged in comb-building, produced more beeswax than a high-grade or refined sugar. In fact, they made more from raw sugar than they did from honey. This experiment was verified by Dumas and Milne-Edwards, two very celebrated French naturalists who used the most careful tests in the work. Others have tried this with the same results. . You can not very well try this experiment with beet sugar. Raw beet-root sugar is not very nice. In England, where beet sugar is very common, it has been often noted that bees do not do so well when fed on it. Remember, too, the beet sugar is a little cheaper and easier to get there. The Germans get aronnd it somewhat by inverting the beet sugar. The syrups they make are very nice indeed, and are sold all ready for the bees. They are sometimes made with grape sugar added. This is to make the syrup resemble honey as far as possible. In this case an ounce of practice is worth a pound of theory. Bees are very fond of and do well on the juice of sugar-cane. It encourages wax secretion. The best cane sugar for bees is the simple open-kettle brown sugar. This sugar retains the natural phosphates, salts and phosphoric acid present in the cane-plant. The cane sugar, with large yellow crystals, is next best. Fruit-canners also prefer it because it has a sweet honey-like flavour.

It is not so easy to get such sugars in the United States, because the sugar trust people want to pocket about a cent a pound made in refining them into white sugars. Raw sugars pay a much lower

duty than refined, and it is in manipulating this difference that the trust has made millions in profits with no equivalent benefit to the consumers. Some of these raw sugars would suit the bees better than the refined; but the trust wants them, and controls the situation. The trust does not care to handle imported *refined* sugar—that is, sugar above No. 16 Dutch standard, and very little is imported into the United States.

Our most highly refined sugars, even when made from cane, are objectionable, because they contain traces of very powerful poisonous chemicals used in preparing them. These are not necessary, but they are cheaper, and easier to use.

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HONEY FOR CANNING.—So far we have used honey for canning fruit only in a small way, but have watched the results carefully, and am fully convinced that it can be used in place of sugar for any kind of fruit with much better results than if the sugar were used. When using honey we have never had a can spoil, and have always found the fruit far better and richer than that put up otherwise. We have been eating some peaches this winter that were put up three years ago, and in that time we have moved once. We would, therefore, advise those wishing to try the honey to do so by all means. When using the honey in place of sugar the same method is followed except that only half the honey is used for sugar, which is poured over the fruit so that it goes down through and all around them. We are careful to use good fruit, as one over-ripe berry may spoil the whole lot.

Fruit must be handled right in order to be good. A very safe rule is to follow whatever plan has been found successful, substituting half the amount of honey for the sugar.

For cooking purposes, making pickles, etc., honey is better than sugar.—*Gleanings in Bee Culture.*

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BEES.—All over the Island among small settlers you will see bees kept in old soap boxes. We would not remark so much on this, but most often the boxes are in a disgraceful condition with holes in them, cracks in them, and many of them broken down. It takes very little trouble and very little expense (for at 3d. you can buy a soap box and at 4½d. a kerosine box.) to provide good box hives. But it is at all times better to have frame hives. We could not convince a small beekeeper that the bees would get on better in good water-tight boxes until we showed him the bees busily engaged stopping up holes and cracks with propolis, to make their homes water-tight, and pointed out that all the time they might have been engaged gathering nectar to make honey. He felt indignant at the bees wasting their time.

A half pint of good vinegar, two teaspoonfuls of turpentine, the white of one egg beaten slightly, and a piece of good toilet soap, the size of a large bean, dissolved in hot water, make as good a white liniment as can be bought for three times the cost.

COMMENTS.

JOURNAL VOLUME FOR 1908.—It is well to have the 12 numbers of the JOURNAL for 1908 bound together in one volume. The printing firms advertising in the JOURNAL will do it for 4/.

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JOURNAL FOR DECEMBER.—We regret that the JOURNAL for December was delayed in issue through the printers' strike, and was not issued till the first week in January. This number, the January JOURNAL, which begins the volume of 1909, will only be a little late.

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COTTON INDUSTRY.—A special joint Committee to consider whether cotton growing should be encouraged among small settlers, and if so in what way, has been formed at the request of the Governor, from the Board of Management of the Agricultural Society and from the Board of Agriculture, consisting of His Grace the Archbishop, Hon. Director of Agriculture, Mr. Conrad Watson, Mr. J. Shore, Mr. H. T. Ronaldson and Mr. T. H. Sharp. This Committee will consider the whole subject of the cotton growing here and make a report.

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ORANGES.—From August to November quite £1,000 per week was paid this year for oranges in the parish of Manchester alone,—and this is a poor year.

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PIMENTO.—Pimento is also a crop that circulates a great deal of money among the small settlers families. One planter alone paid away over £1,200 between the picking of his crop and the quantity he bought locally, all within a month. It is this money which set the South Manchester people on their feet after the long drought. There is always some compensation in nature—at the close of a long and severe drought—a record crop of pimento.

Next year's crop is likely to be poor, not only because it is seldom that two good crops follow each other, but so many berries were left on the trees to ripen, many owners not being able to get the crop completely picked off, that new growth on the trees has been retarded. In some cases, however, this has stimulated new growth, especially in old trees.

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RUBBER.—Ceylon planters are finding that they have fully two years longer to wait than they anticipated for the tapping of the rubber trees. Rubber planted in tea land has not come on nearly so well as it promised. Rubber in the Malay estates in general is two years earlier than in Ceylon, the soil and climate seeming to suit it better. The mistake that many men made was expecting rubber to grow on any soil, and so simply planting it broadcast. Many are finding out their mistakes now, and in many cases they

are abandoning their fields and going back to their tea. The latest reports say that 25 per cent of the rubber *planted in Ceylon will never yield latex at all. There is a brilliant future for well selected plantations with the product at anything over 2/9 per lb., as well-managed concerns are turning out good stuff from 1/- to 1/6.*—CORRESPONDENT.

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VANILLA.—Three pounds of well cured vanilla were sold lately locally for £1, but there is not much local demand. The crop at Hope Gardens is being made into essence of vanilla, which sells at 20/- per gallon and will equal 10/6 per lb. of cured beans. One pound of vanilla makes one gallon essence after allowing for alcohol used.

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POTATOES.—It has been glorious weather for the growing of Irish potatoes, almost as if made to order. Two things are generally necessary, that is to get the best results, a slight drawing up of the earth to the tops when they are just four inches out, and again when they are well grown so that they threaten to fall over if not supported by earth. When thus hilled or earthed up, the potatoes develop better, and there is less danger of water through the topmost potatoes being exposed to the air, which greens them and makes them unfit for food, although good for seed.

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VEGETABLES.—It was too dry up to Christmas for garden stuff in general, and watering had to be done freely. Since then in Christmas week, splendid rains fell in quantity and brought along every crop remarkably. Still after the rain a crust quickly forms again and the rake is the most useful implement to break the crust. Another useful implement for this purpose, but not often used here, is the scuffle-hoe, but it is better for killing out young weeds when they appear, and serves the double purpose of loosening the earth also.

We repeat our remarks of last month on this question that the rake breaking the crust of the earth and keeping the surface loose, will save a great deal of watering.

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TICKS.—Professor Newstead gave a very interesting lecture on ticks at the Institute of Jamaica in Kingston, on Wednesday, 13th January. His investigations are yet incomplete, but it was interesting to have his confirmation of the value and the usefulness of the 'Tinklings' as it is called locally (also called Barbados Black Bird), and our own Black Bird as tick-eaters. On opening some of these birds he found their stomachs full of large ticks. He also spoke about the value of domestic fowls in the cattle pens as tick-eaters, and quoted the experiences of a pen keeper who dispensed with fowls only to find that his cattle yard swarmed with grass lice. The fowls would have prevented grass lice ever being there, as they

would have picked all the large mother ticks either direct from the cows or as they dropped.

We have often written of the value of these birds, i.e., all kinds of black birds and also fowls in this connection. We trust that every reader of the JOURNAL will do all in his power to protect black birds from being destroyed by boys, and to protect their nests.

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OUR EXPORTS.—Writing in the November JOURNAL about our exports and crops, we said that the prospects for all crops looked quite as favourable as they were exactly two years ago when the drought commenced, but the results now entirely depended upon the weather; if we had good rains till Christmas we would be safe. We have had better than that—we have had glorious seasons from Christmas week on through the first week of January at least, at which time we write. We have never known such fine weather for crops at this time. The rains have not been so heavy as to do damage except a little in Portland. They have not been too heavy to interfere with the matured cane crop, while they have been most beneficial to the young canes just planted, and for those about to be planted the ground will be in fine condition to start them off. A thorough saturation of the ground by heavy afternoon showers with the strong sunshine all the forenoon, has pushed on the bananas at a great rate for this time of the year when growth is usually almost at a standstill. In the ordinary course as may be seen from the weekly returns of exports, we have been making up lee-way hand over hand. Take the last week of the year for instance; we exported for the week ending 28th December, 1908, 184,737 stems of bananas, and for the corresponding period last year, 127,313. At the end of December we were a little over 500,000 stems behind last year, but with the unexpected ideal weather for growth we are having, we shall now more than make up this by the end of the financial year. We have in fact since the end of October, when we were a million stems behind, that is in two months, made up 500,000 stems lee-way from last year.

We cannot make up the lee-way in coconuts altogether, but we are now exporting every week more than the corresponding period last year, showing that the coconut trees are recovering well.

We cannot make up lee-way in sugar, but we should make up a good deal of the 6,000 tons we were behind last year at the end of December. We have already exported 2,000 cwt. of cocoa more than last year, and every week should see us increase this improvement as there is a fine spring crop in sight, while our late and straggling fall crop is still coming in.

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SMALL SETTLERS AT SHOWS.—The definition of a small settler has given cause for contention at shows. The usual definition is that he is one who owns or rents not more than 50 acres, or a person in a similar position. But then a man might only own 10 acres or even 5 acres, and yet have a salary ranging from £500 a year.

We have always said that it should be left for the Committee to judge whether anybody entering exhibits of stock as a small settler, was, in their opinion, a *bona fide* small settler. St. Thomas in the Vale Show Committee have neatly met the situation by adding the words, "if so approved by the Committee."

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OBITUARY.—The hand of death has been heavy on the members of the Board of Management: first, Mr. John Cameron of Caymanas, then Mr. R. A. Walcott, and now the Hon. H. C. Bourne, Colonial Secretary, who was also Chairman of the Board of Agriculture, have passed away, all within a year. Then a frequent contributor to our pages, Mr. Robert Thomson, well known for his especial interest in cassava, rubber, and pine-apples, died in London on the 28th December. But he was of a ripe age, the others died in the full swing of their usefulness.

BRANCH NOTES.

Albany.—This Branch of the Agricultural Society, held its annual meeting on the afternoon of the 10th December. There was a fair turn out of members. Ronald McDonald, Esq., was elected President and Messrs E. R. Foster and H. Lindo, Vice-presidents. Messrs. W. J. Morris, G. W. Turner, R. Williams, and James Robins on Managing Committee, and Rev. C. A. Wilson, Secretary and Treasurer. The meeting discussed the turning of bananas and was of opinion that the best time for ratoon suckers to be allowed to grow was October. The selling of fruit under contract or in open market was discussed. It was shown that the contract price, although a little less in April and May, yielded the seller £7 10s per 100; whereas the price in open market only averaged £6 5s. The seller was better protected under contract and could choose his price to suit the crop. The Society recommended the union of members for the taking of contracts. The subject of Agricultural Loan Banks was taken up. Information was given *re* the success of the Christiana Bank, as also the readiness of Mr. Palache to come over in February to read a paper on the subject. The meeting approved of the starting of a bank, but agreed to delay action until Mr. Palache comes. The curing and selling of produce was also considered. Members agreed that cooperation in order to proper curing and direct exporting of produce would bring more to the planter. A Committee consisting of Messrs. E. R. Foster, J. Turner, and Mrs. Denton, was appointed to bring up from time to time for consideration of the Society such articles in the JOURNAL as would prove of practical value to members.—C. A. WILSON, Secretary.

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St. Mary's (Central.)—A meeting of this Branch was held in the Eliot schoolroom on Thursday, December 10th. There were present, J. A. Banks, President, the Secretary, and ten members, besides a few interested persons. Owing to heavy rains more members were not present. The minutes of the last meeting were read and confirmed. A paper on "Manure," by Mr. J. Williams, who was absent, was read by the Secretary. The paper was good, but dealt more on artificial manures, which the peasantry are unable to procure. A very helpful discussion followed the reading of the paper. The Rev. C. A. Wilson spoke on the subject in a very practical manner, and showed that much valuable manure is wasted from time to time, which would enrich the small cultivators' land. The housing or keeping of small stock in pens, would secure their drop-

pings for manure. The subject of burning vegetation was considered. The practice was shewn to be robbing of the land rather than helping. There was a short discussion on the payment of subscriptions by members. The meeting decided that in future the principle of "no subscriptions, no JOURNALS," will be adhered to. Other subjects considered were, jippi-jappa hat industry, which the Society is anxious to form; the growing and exportation of oranges; and the prize holdings competition. There is hope that at the next competition many in this vicinity will compete. The members are looking forward with pleasure to Mr. Cradwick's return in February. Rain is plentiful. There have been very high winds since last month, which did much damage to bananas around. There is a great demand for the fruit, but the prices remain the same.—N. A. SINCLAIR, Secretary.

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Fair Prospect.—A special meeting was held in the United Fruit Company's Fruit House on the 7th December, 1908, at 3 p.m., S. A. Hendricks, Esq., presided. Mr. Palache promised to be present, but unfortunately, we looked in vain. The meeting was called to order by the Chairman, and the subject of the white scale insect pest was introduced. The circular from Mr. J. Barclay was read by Mr. W. A. Morgan, whilst the Secretary took the minutes, and was listened to with great attention. After the reading of the circular, the President asked if any one present would like to give their views on the subject, could do so. The Chairman said during the rainy season he took some red earth and put on the tree, scrubbed with a coarse bag, and he succeeded in destroying the insects. It was suggested by Mr. Morgan that as there were two specialists in the island, the Secretary write Mr. Barclay asking him if we could get them to give us a lesson on the subject; and what would be the arrangement for bringing them. Mr. D. Helsey said that he tried a solution of bitter wood, lime, and kerosene oil, and succeeded in killing these insects. Mr. A. Reddish stated that a grower told him that he tried a solution of about 10 quarts of lime with one pint of kerosene oil, and he got very good result in killing them also (the insects). It was suggested by Mr. M. Daley that each member should try one of these experiments. Mr. Crosbie said, in buying fruits, he notices that many rot from the stem, which he thinks is caused from using a dull knife. Mr. H. Bailey gave his experience in getting early fruits; he tried a solution of lime, urine, and bitter wood. Mr. J. Campbell said he succeeded by rubbing the trees with a coarse brush, pruning and applying bitter wood and lime. The President stated that in manuring the trees, the manure should be put around them according to the extension of the Branches, and not round the trunk. The Secretary was asked to write Mr. Barclay so as to know what would be the cost of a spray pump. No other business, the meeting was brought to a close.—C. ROWLAND, Secretary.

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Fair Prospect.—The monthly meeting of this Branch was held on the 5th December. Present, Messrs. R. H. Elworthy, in the chair, D. S. Munroe, Assistant Secretary, and nine members. Meeting opened with prayer as usual. A short address by President, after which the minutes of last meeting were read, amended and confirmed. Matters arising from minutes were dealt with. 1. Apologies from Messrs. J. W. Munroe, and W. Z. Buckley were given for not preparing what they promised. 2. Reading of Treasurer's account from commencement of the year to end of October, shows the Society's expenditure and also cash on hand to the amount of £1 16s. A vote of thanks was given to Mr. Munroe for the able manner in which he acted for the good of the Society. Correspondence from Mr. Barclay to Mr. Munroe in reference to JOURNALS and Penny Bank matters, were read. As the Penny Bank business was decided to be put into practice, Mr. Munroe was authorized to send on to Mr. Barclay to get the necessary books required, also to pay the affilia-

tion fee for the year 1908. Meeting came to a close with the singing of Doxology.—D. S. MUNROE, Assistant Secretary.

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Hector's River.—*The regular meeting of this Branch was held at Sea Side on Saturday, 5th December, and must be regarded as the best yet.* There was a large attendance of members, the Rev. W. Peto Sibley presiding. Three new members were afterwards elected. After an opening prayer by Mr. S. A. Brown and remarks from the Vice-president, the Secretary read the minutes of the last meeting, which were accepted. The Secretary also read communications from the Secretary of the Bath Society, relative to their approaching show. At the close of a discussion whether our exhibits should be sent combined or from individuals, Mr. Watts moved the following resolution: "That any member of this (Hector's River) Society, sending exhibits to the Bath Show, must indicate on the entrance form that it goes through the medium of the Hector's River Agricultural Society." This was seconded by the Secretary, supported by Matthew Henry and others and carried.

PRIZE HOLDINGS COMPETITION.—The Secretary said that so as to be in readiness for 1909-1910, our members should be taught the requirements of the competition. He directed the attention of members to the rules found at the back of the JOURNAL. The President remarked on the poor showing of the few competitors from this district on the last occasion. He hoped for the matter to be taken up whole-heartedly. Mr. Wates wanted organized effort to be immediately set on foot, so that the judges would be presented with the very best holdings; at his suggestion it was agreed that the members be written to, and when it was determined who would compete, to call a meeting and have the matter fully explained. Mr. Brown gave several useful hints. He quoted the case of the man who returned from Costa Rica, vide page 365 November JOURNAL. Mr. Afflick wanted the Society to procure a good "billy" to improve the breed of goats in the district, and the Secretary was directed to communicate with Mr. Barclay and ascertain cost, etc. The same gentleman also brought forward a resolution: "That in view of the bad state of the Haining Road, a petition be sent from this Society to the Parochial Board to have the road better kept, or to have it handed over as a main road. The President, Mr. Pinnock, Brown, Wates, Hoffman and others, spoke on the present state of the Parochial Roads generally, and this in particular—it is used by a large number of taxpayers, some of whom have recently suffered heavy losses. No less than 13 carts ply here on banana days, making several trips. The following gentlemen were named a committee to draw up the petition: W. P. Sibley, S. A. Bowen, . A. Gray, L. R. McBean, R. H. Mills, and the Secretary. Miss E. Latibidier gave a report on the hat-making class. Everything in connection with the class was satisfactory. She hoped with hats made by her upils, to take the prize at the Bath Show. The last item on the agenda, 'as an address by Mr. L. R. McBean, on the handling of bananas. The ecturer has had years of experience in the fruit trade, and the subject 'as masterly handled. There were others in the meeting who had lived a good old age in the fruit trade, and on the lecturer taking his seat, he members were treated to masterly criticisms on the address. Banana alk filled the air for a while and plenty of good wholesome truths and dvice were scattered. The President thanked Mr. McBean for his ad-ress. He was glad for this new feature in our meetings. He assured he members it would be continued as Mr. Mills had consented at our ext meeting to lecture on "the cultivating of bananas," and Mr. Wates n "cocoanut disease."—E. JACOBS, Secretary.

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Rio Minho.—A meeting of this Branch was held in the Park Hall hoolroom on the 11th November, Mr. J. Hirst presiding. The attendce was sparse. The ordinary routine business was gone through. The

Secretary reported that a very fine black Orpington rooster had been bought for the use of the members of the Society, and a small Committee was appointed to draft rules for the keep of the rooster. The question of the curing of produce and the methods of the dealers was left over for the December meeting. A letter was read from the Clerk of the Parochial Board to the effect, that the Board had decided to grant the petition of the Branch, and maintain the Cupid's Road in place of No. 49; work to be started April, 1909. Mr. Hirst moved that the Board be written to, asking them to use the amount allotted to No. 49, which is not being spent on it, and in the meantime put the very bad places on the Cupid's Road in order. This was agreed to. Some of the canes from Hope are growing well, and it is hoped that soon there will be some test as to the practical value of the seedlings.

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Gibraltar.—The monthly meeting of this Branch was held on the 11th December, 1908. In the absence of the President and the local Instructor, it was arranged that the Vice-president, Mr. J. R. Codner, would preside. Unfortunately he was called away from home at the very hour for which the meeting was arranged. The Secretary acted in his place and proceeded with the details of the meeting. A letter from Mr. Barclay stating that this Branch was affiliated with the parent Society, and asking for notes on the crops of the district, etc., was read to to the meeting. The article on "Small Cultivators" in the November JOURNAL, was to be read by the Vice-president and thrown open to the meeting for discussion. In his absence this was done by the Secretary. A healthy discussion followed, which threw a light on the value of small holdings and the use to which they can be put by following the hints given in the article. The question respecting our orange crops was next taken up. Speaking generally, the Dry Harbour Mountains can boast of a good quality of orange. The fruits are not given the opportunity of recommending themselves. The local buyers generally begin buying between August and September, when the fruits are immature, and not fit for the market. Now that they are marketable, no call is made. This staple is one of the means by which the small settler lives. The meeting viewed with deep regret that things are allowed to go on year after year in this unhealthy condition,—giving a bad name to the Jamaica orange abroad, simply because the fruit is shipped in an undeveloped condition. The meeting further hopes that the authorities will look into this matter seriously, so that the Jamaica orange, when given a chance, will he able to take its proper place in the market. Mr. J. B. Sawyers expressed his views on the sale of coffee. He observed that the people generally take uncured coffee to the local buyers, and on the whole, demand a fair price. The disadvantage in this is, that after others have gone through the process of curing this article in the right way, so that it is marketable, they get the same price and sometimes a lower price from the local buyers. This led him to move the following resolution:—"Be it resolved that the local buyers be strictly prohibited from buying uncured products, especially coffee, and that a reasonable price be given for all cured products which will give the impetus necessary for thorough preparation for the market, and that if the people will continue to sell uncured products, that a price be given them which will in itself be a deterrent *in re* the continuation of this unbecoming practic." The Secretary read a paper on Manures.—kinds, how applied. A vote of thanks was moved by Mr. Sawyers, and seconded by Mr. McNeish. Mr. Sam. Samuels spoke on the beneficial effects of a pig stye. He gave his knowledge to the meeting on the making, management and removal of these styes. He experimented on a dry and unyielding plot of land. He was careful in removing each stye every three months. In the space of a year he was able to manure the entire plot, which has now yielded bananas to his satisfaction, thus repaying him handsomely for his initial trouble. Mr. Allardice spoke on the useful-

ness of the JOURNALS. He was surprised to see the considerable amount of instruction that can be had from reading them carefully. The following is the agenda for the next meeting:—(1) Paper on the planting of coffee, Mr. Jno. Hall: (2) Stock rearing, Mr. Thos. Campbell; (3) How to cure Pimento, Mr. Gager; (4) How to prepare the soil for yams, Mr. Thos. Lawrence. Owing to the absence of Mr. Arnett, nothing was done respecting the forthcoming Show, except reminding the members of their duty towards it to ensure success.—I. H. EDWARDS, Secretary.

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Springfield (St. Elizabeth).—A meeting of this Branch was held at Springfield on the 11th December. The minutes of the last meeting were read and confirmed. As arising out of the minutes, the Secretary having failed to prepare petition to be sent to the Postmaster General, instruction was given for the preparation of such a petition to be signed at next meeting. In respect to the letter from the Agricultural Society, "no subscription, no JOURNAL," it was decided that the Treasurer, who was absent, be instructed to look up the members. A letter from the Institute of Jamaica, "Competition in Arts and Craft, 1907," was read, and the Secretary was instructed to look around to find what Branch or Branches in the "crafts" can be encouraged to meet the exhibition. It has been thought necessary to start a jippi jappa hat class, and the Secretary promised to get information helpful to such a class, to meet the next meeting. Mr Tom Smith moved, and Mr. W. Woodstock seconded, that the Governor be asked to take steps to prevent the exportation of unsound fruits. The members are anxious to know when the judging in respect to the Prize Holdings will take place, and the Secretary has been instructed to write the Instructor for the district. Mr. Woodstock expressed the thanks of the meeting to the Chairman and Secretary for the good work they are doing for the Society and the district, to which the Chairman replied suitably.—B. THOS. ATKINSON, Secretary.

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St. George's.—The monthly meeting was held in the Court House, Buff Bay, on Saturday, December 12th, 1908. There was a fair attendance, W. G. Russell, Vice-president, being in the chair. Arising out of the minutes, the following resolution was adopted:—Resolved:—"That the parent Society be informed that this Society is surprised that since Mr. Elworthy's withdrawal, no Instructor has visited this district, which to a great extent has caused this Society to wane, and agriculture in general to suffer, and that the parent Society will take immediate steps to remedy the evil." The following additional bye-law was also carried unanimously: "If any members of the Committee of Management be absent from the meetings of the same for six consecutive meetings without leave of absence being granted by the Committee of Management, his seat shall be declared vacant, and the Committee of Management shall fill the vacant seat until the next general meeting." Read letter from Mr. S. S. Steadman, apologizing for his absence from the meeting, and resigning his seat on the Committee on account of want of time and also because, that often when he attends, no meeting can be held, owing to insufficient members being present to form a quorum. The Chairman addressed the meeting, advising the members to come out in force at the general meeting to be held on the 9th of January, 1909, and appoint a good President (one who will take some interest in the Society), and members who will attend the meetings. The weather has been very favourable for the growth of crops during the last few months. Fair showers with good sunshine have had quite remarkable effects. The coming crop of bananas will be a little late. Cocoa is coming in steadily again, and a good crop is expected from February to June. Ground provisions are now seen in fair quantities. Eggs ars scarce, selling from 1d. to 1½d. each. Fowls from 6d. to 7½d. per lb.—W. JACKSON, Secretary.